5,730,494, 5,217,276, and 4,627,663 and U.S. Patent Application Publication No. US 2009/0051201.

The linkage systems used in recliners can be expensive to manufacture. Further, such systems tend to be bulky and reduce the design options for providing a chair that may have a desirable aesthetic effect. In contrast, a chair that does not permit a chair back to be reclined, while often less expensive to make, usually provides less comfort to a user that wishes to sit in a substantially reclined position.

A new chair design is needed that may permit a user to recline the back of a chair so that a user may be comfortable in a number of different sitting positions while seated in the chair. Preferably, such a chair does not have to utilize a system that requires expensive linkage systems or other expensive recline systems to recline a chair back or maintain the position of the reclined chair back while also expanding the viable design options for such a chair.

SUMMARY OF THE INVENTION

According to an aspect of the present invention, there is provided a~~n~~ article of furniture comprising~~includes~~ a base, a seat frame attached to~~supported by~~ the base, and a back frame~~ attached to the seat frame. The back frame includes an upper portion and a lower portion. The upper portion is connected to the lower portion by one or more first elastomeric members so that the upper portion is moveable relative to the lower portion. The upper portion is moveable from an upright position to at least one reclined position.~~, the back frame comprising an upper portion moveably attached to a lower portion by at least one first elongated elastomeric member, the lower portion of the back frame being attached to the seat frame; the upper portion of the back frame comprising a plurality of back support elements, each back support element connected to at least one other back support element by at least one second elongated elastomeric member; and wherein the upper portion of the back frame is configured to move from an upright position to a reclined position and wherein the at least one first elongated elastomeric member is configured to flex when the upper portion is moved to the reclined

position, the upper back frame portion attached to the lower back frame portion such that the at least one first elongated elastomeric member does not bias the upper portion of the back frame to the upright position after the upper portion of the back frame has been moved to the reclined position, wherein the at least one first elongated elastomeric member is comprised of a first elastomeric strap and wherein the upper portion of the back frame is comprised of a plurality of back support elements; the first elastomeric strap extending across the back support elements and being positioned to abut a portion of a rear surface of the back support elements of the upper portion and also being positioned to abut a portion of a front surface of the lower portion of the back frame.

Embodiments of the article of furniture may include a lounge chair, an office chair, a love seat, or other seating unit. Preferably, embodiments of the article of furniture do not utilize any linkage system for controlling the recline of the upper portion of the back frame nor any locking mechanism that utilizes an element to positively or mechanically hold the back frame in a particular reclined position. That being said, it is contemplated that some less preferred

embodiments of the article of furniture could include such a linkage system or such a locking mechanism.

The one or more first elastomeric members may beare configured so that the upper portion of the back frame is moveable to a reclined position upon a first force acting on the upper portion of the back frame to move the upper portion and mayis also be configured to maintain that position after the first force is removed until a second force is applied to the upper portion of the back frame to move the upper portion to a different position, such as the upright position. Preferably, the first elastomeric member is configured to be flexed into a flexed position when the upper portion is moved to a reclined position and stay in the flexed position to maintain the upper portion of the back frame in that position.

In some embodiments, the upper portion of the back frame may include a plurality of back support elements. Each back support element may be interconnected to at least one other back support element by at least one second elastomeric member. Preferably, each back support element is composed of a polymeric material, such as plastic or an elastomeric material. The back support elements may preferably be polygonal shaped, such as rectangular, hexagonal, or triangular shaped elements. The second elastomeric members may include one or more second elastomeric members positioned on the front surface of the back frame and a plurality of members positioned on the rear surface of the back frame.

It should be understood that upholstery, padding, a liner or a covering may be attached to the back frame and seat frame. The liner or covering may be any of a number of suitable materials. Likewise, the padding that is utilized may be any of a number of padding options, such as foam or cushions, to provide a desired seating comfort profile and aesthetic effect to the article of furniture.

In other embodiments, the article of furniture may include a base, a seat frame attached to the base, and a back frame. The upper portion of the back frame may be attached to the lower portion of the back frame by one or more first elongated elastomeric members. The lower portion of the back frame may be attached to the seat frame. The upper portion of the back frame may include a number of back support elements. Each back support element may be connected to at least one other back support element by at least one second elastomeric member. The upper portion of the back frame may beis configured to move from an upright position to a reclined position. The one or more first elongated elastomeric members may bearе configured to flex when the upper portion is moved to the reclined position. The at least one first elastomeric member mayis also be attached to the upper back frame portion such that the at least one first elastomeric member does not bias the upper portion of the back frame to the upright position after the upper portion of the back frame has been moved to the reclined position.

Preferably, the lower portion of the back frame is integrally attached to the seat frame or is attached to the seat frame such that the lower portion does not move relative to the seat frame.

In some embodiments, the one or more first elastomeric member may include a plurality of elastomeric straps that extend from respective back support elements of the upper portion of the back frame to a portion of the lower portion of the back frame. These elastomeric straps may be positioned on the rear surface of the back frame. These straps may be positioned so that their lengths extend in a direction that is transverse to one or more other elastomeric straps.

Other details, objects, and advantages of the invention will become apparent as the following description of certain present preferred embodiments thereof and certain present preferred methods of practicing the same proceeds.